

555,814

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/093653 A2

BEST AVAILABLE COPY

(51) International Patent Classification⁷:**A61B**(74) Agent: JONES, Michael, D.; Klarquist Sparkman, LLP,
One World Trade Center, Suite 1600, 121 SW Salmon
Street, Portland, OR 97204 (US).

(21) International Application Number:

PCT/US2004/012192

(22) International Filing Date: 19 April 2004 (19.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/464,022	18 April 2003 (18.04.2003)	US
60/533,853	31 December 2003 (31.12.2003)	US

(71) Applicants (*for all designated States except US*): OREGON HEALTH & SCIENCE UNIVERSITY [US/US]; Office of Technology & Research Collaborations, 2525 SW 1st Avenue, Suite #120, Portland, OR 97201 (US). STATE OF OREGON ACTING BY AND THROUGH THE STATE BOARD OF HIGHER EDUCATION ON BEHALF OF PORTLAND STATE UNIVERSITY [US/US]; P.O. Box 751, Portland, OR 97207 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): MC NAMES, James [US/US]; 7608 SE Madison Street, Portland, OR 97215 (US). SANTIAGO, Roberto, A. [US/US]; 5215 SE 37th Avenue, Portland, OR 97202 (US). FALKENBERG, Jon, Hakkon [US/US]; 920 NW Kearney, Apt. 455, Portland, OR 97209 (US). BURCHIEL, Kim, J. [US/US]; 11010 SW Esquiline Circus, Portland, OR 97219 (US).

A2

WO 2004/093653 A2

(54) Title: MICROELECTRODE RECORDING ANALYSIS AND VISUALIZATION FOR IMPROVED TARGET LOCALIZATION

(57) Abstract: Methods of processing neuronal signals include processing microelectrode recordings (MERs) or portions of MERs to provide arrays of associated values, such as estimates of power spectral density, or a marginal probability distribution, or a rate of change of a spike rate. Such arrays of values can be displayed, and a classifier can be applied to, for example, aid in associating a MER with a particular brain feature.